REMARKS:

Claims 1-17 are currently being examined, of which claims 1-3, 5-11, 14, and 16 have been amended. No new claims have been added, and no new matter has been introduced.

The Examiner has objected to claims 2-5 because of various noted informalities relating to antecedent basis. Applicants respectfully traverse this objection. It is respectfully submitted that claims 2-5, as amended, do not include the noted informalities. Thus, Applicants respectfully submit that this objection should be withdrawn.

Claims 1-5, 7, 9-11, 14, and 16 stand rejected under 35 USC 102(b) as anticipated by USP 4,557,557 (**Gleason**).

Claims 6, 8, 12, 13, 15, and 17 stand rejected under 35 USC 103(a) as obvious **Gleason** in view of USP 6,676,307 (**Yang**).

Applicants respectfully traverse the above rejections of claims 1-17.

CLAIMS 1-4:

For a single mode fiber, ***mode field diameter*** (MFD) may depend on parameters such as the refractive index difference between the core and cladding, core diameter, and wavelength. Mode field diameter is a measure of distribution of optical power intensity across the end face of a single mode fiber. Optical loss may be distinguished from mode field diameter.

Gleason describes a desired optical loss value, and does not describe calculating mode field diameter. **Gleason** does not describe that a "mode field diameter" is calculated in advance and utilized.

In view of the above, **Gleason** fails to expressly or inherently describe the following features set forth in claim 1, as amended: "wherein the amount of deformation of the fiber core and mode field diameter (MFD) corresponding to a desired splice loss is calculated in advance of the deformation, and wherein the deformation of the fiber core and mode field diameter (MFD) is performed in dependence upon the calculated amount to achieve the desired splice loss", in combination with the other claimed features.

Thus, Applicants respectfully submit that the rejection of claims 1-4 should be withdrawn.

CLAIMS 5-17:

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following aspects disclosed by the subject application: (1) moving fibers to form a gap between ends of fibers (specification, p.15, lines 15-17); (2) cleaning/preheating the spaced-apart ends of the fibers using a "heating quantity required to deform each end of the fibers with the deformation quantity required to attain a desired optical attenuation" (specification, p.10, lines 10-12), such that the heating quantity is computed in advance (specification, p.9, lines 10-22); (3) moving the ends of the fibers toward each other to overlap by a specific distance (thereby removing the gap), and heating the ends of the fibers and performing a fusion splice with a fusion arc discharge having an intensity computed in advance to achieve targeted splice losses (specification, p.13, lines 2-7 and p.16, lines 4-13, FIG. 5).

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 5, as amended: "a means for moving a first fiber core to form a gap between an end face of the first fiber core and an end face of a second fiber core, ... the electrodes performing the cleaning arc function when the end faces are spaced apart by the gap, the electrodes performing a fusion arc discharge for the fusion splicing when the gap is removed; wherein the amount of the cleaning arc is computed in advance in dependence upon a deformation quantity required to attain a desired optical attenuation; wherein the fusion arc discharge intensity is

computed in advance in dependence upon the specific splice loss desired to exist after the fusion splicing", in combination with the other claimed features.

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 9, as amended: "each said end being deformed in advance by an amount of arc computed in advance in dependence upon a deformation quantity required to attain a desired optical attenuation, ... wherein a fusion arc discharge intensity for the fusion splicing is computed in advance in dependence upon splice losses desired to exist after the fusion splicing", in combination with the other claimed features.

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 10, as amended: "moving a first fiber to form a gap between end surfaces of a first fiber and a second fiber; performing an electric discharge step for removing dust adhered on each of the end surfaces and their vicinity when the end surfaces are spaced apart by the gap...; moving the first fiber toward the second fiber to remove the gap; and performing a fusion arc discharge step for the fusion splicing when the first fiber is moved toward the second fiber to remove the gap, wherein the fusion arc discharge intensity is computed in advance in dependence upon splice losses desired to exist after the fusion splicing", in combination with the other claimed features.

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 11, as amended: "moving a first fiber to form a gap between ends of a first fiber and a second fiber; ... wherein quantity of the preheating is computed in advance...; and performing a fusion arc discharge step for the fusion splicing when the first fiber is moved toward the second fiber to remove the gap, wherein the fusion arc discharge intensity is computed in advance in dependence upon splice losses desired to exist after the fusion splicing", in combination with the other claimed features.

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 14, as amended: "an electric discharge is carried out for removing dust adhered on each end surface and its vicinity of two optical fibers when the two optical fibers are spaced apart by a gap, and thereafter the gap is removed and ends of the two optical fibers are fusion spliced to each other by a fusion arc discharge so as to form the optical fixed attenuator, ... wherein the fusion arc discharge intensity is computed in advance in dependence upon splice losses desired to exist after the fusion splicing", in combination with the other claimed features.

Gleason and **Yang**, alone or in combination, fail to describe, teach, or suggest the following features set forth in claim 16, as amended: "a preheating is carried out when the two optical fibers are spaced apart by a gap for melting ends of two optical fibers before the gap is removed and said ends of the two optical fibers are fusion spliced to each other by a fusion arc discharge so as to form

the optical fixed attenuator, ... wherein the fusion arc discharge intensity is computed in advance in dependence upon splice losses desired to exist after the fusion splicing", in combination with the other claimed features.

Thus, Applicants respectfully submit that the rejections of claims 5-17 should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, all claims currently being examined are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,
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